



<110> Xiao, Zhi-Cheng

<120> Materials and Methods Relating to the Treatment of Injury and Disease to the Central Nervous System

<130> 0380-P03638US00

<140> 10/537,757
<141> 2005-06-06

<150> PCT/GB03/005329
<151> 2003-12-05

<150> US 60/431,549
<151> 2002-12-06

<150> US 60/480,138
<151> 2003-06-20

<160> 33

<170> PatentIn version 3.1

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<212> PRT
<213> Homo sapiens

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Met Glu Asp Leu Asp Gln Ser Pro Leu Val Ser Ser Ser Asp Ser Pro
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Asp Glu Glu Glu Glu Glu Glu Glu Asp Glu Asp Glu Asp
35 40 45

Leu Glu Glu Leu Glu Val Leu Glu Arg Lys Pro Ala Ala Gly Leu Ser
50 55 60

Ala Ala Pro Val Pro Thr Ala Pro Ala Ala Gly Ala Pro Leu Met Asp
65 70 75 80

Phe Gly Asn Asp Phe Val Pro Pro Ala Pro Arg Gly Pro Leu Pro Ala
85 90 95

Ala Pro Pro Val Ala Pro Glu Arg Gln Pro Ser Trp Asp Pro Ser Pro
100 105 110

Val Ser Ser Thr Val Pro Ala Pro Ser Pro Leu Ser Ala Ala Ala Val
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Ser Pro Ser Lys Leu Pro Glu Asp Asp Glu Pro Pro Ala Arg Pro Pro
130 135 140

Pro Pro Pro Ala Ser Val Ser Pro Gln Ala Glu Pro Val Trp Thr

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Pro Pro Ala Pro Ala Pro Ala Ala Pro Pro	Ser Thr Pro Ala Ala Pro		
165	170	175	
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Pro Ala Ala Ser Glu Pro Val Ile Arg Ser	Ser Ala Glu Asn Met Asp		
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Leu Lys Glu Gln Pro Gly Asn Thr Ile Ser	Ala Gly Gln Glu Asp Phe		
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Pro Ser Val Leu Leu Glu Thr Ala Ala Ser	Leu Pro Ser Leu Ser Pro		
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Leu Ser Ala Ala Ser Phe Lys Glu His	Glu Tyr Leu Gly Asn Leu Ser		
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Thr Val Leu Pro Thr Glu Gly Thr Leu Gln	Glu Asn Val Ser Glu Ala		
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Glu Glu Ile Ile Val Lys Asn Lys Asp	Glu Glu Glu Lys Leu Val Ser		
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Asn Asn Ile Leu His Asn Gln Gln	Glu Leu Pro Thr Ala Leu Thr Lys		
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Leu Val Lys Glu Asp Glu Val Val Ser	Ser Ser Glu Lys Ala Lys Asp Ser		
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Phe Asn Glu Lys Arg Val Ala Val Glu Ala	Pro Met Arg Glu Glu Tyr		
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Ala Asp Phe Lys Pro Phe Glu Arg Val Trp	Glu Val Lys Asp Ser Lys		
385	390	395	400
Glu Asp Ser Asp Met Leu Ala Ala Gly	Gly Lys Ile Glu Ser Asn Leu		
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Glu Ser Lys Val Asp Lys Lys Cys Phe	Ala Asp Ser Leu Glu Gln Thr		
420	425	430	
Asn His Glu Lys Asp Ser Glu Ser Ser	Asn Asp Asp Thr Ser Phe Pro		
435	440	445	
Ser Thr Pro Glu Gly Ile Lys Asp Arg	Pro Gly Ala Tyr Ile Thr Cys		
450	455	460	
Ala Pro Phe Asn Pro Ala Ala Thr Glu Ser	Ile Ala Thr Asn Ile Phe		
465	470	475	480
Pro Leu Leu Gly Asp Pro Thr Ser Glu Asn	Lys Thr Asp Glu Lys Lys		
485	490	495	
Ile Glu Glu Lys Lys Ala Gln Ile Val Thr	Glu Lys Asn Thr Ser Thr		
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Lys Thr Ser Asn Pro Phe Leu Val Ala Ala	Gln Asp Ser Glu Thr Asp		
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 Asn Met Pro Glu Gly Leu Thr Pro Asp Leu Val Gln Glu Ala Cys Glu
 545 550 555 560
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 595 600 605
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 610 615 620
 Pro Ser Ala Gly Ala Ser Val Ile Gln Pro Ser Ser Ser Pro Leu Glu
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 Pro Pro Tyr Glu Glu Ala Met Ser Val Ser Leu Lys Lys Val Ser Gly
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 Glu Thr Glu Ala Pro Tyr Ile Ser Ile Ala Cys Asp Leu Ile Lys Glu
 690 695 700
 Thr Lys Leu Ser Ala Glu Pro Ala Pro Asp Phe Ser Asp Tyr Ser Glu
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 Met Ala Lys Val Glu Gln Pro Val Pro Asp His Ser Glu Leu Val Glu
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 Asp Ser Ser Pro Asp Ser Glu Pro Val Asp Leu Phe Ser Asp Asp Ser
 740 745 750
 Ile Pro Asp Val Pro Gln Lys Gln Asp Glu Thr Val Met Leu Val Lys
 755 760 765
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 Asp Glu Val Ser Thr Leu Ser Lys Lys Glu Lys Ile Pro Leu Gln Met
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 Lys Glu Ala Gln Ile Arg Glu Thr Glu Thr Phe Ser Asp Ser Ser Pro
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 Ser Phe Ser Lys Leu Ala Arg Glu Tyr Thr Asp Leu Glu Val Ser His
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Thr Glu Leu Pro His Asp Leu Ser Leu Lys Asn Ile Gln Pro Lys Val
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 Glu Glu Lys Ile Ser Phe Ser Asp Asp Phe Ser Lys Asn Gly Ser Ala
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 Gln Ala Glu Ile Glu Ser Ile Val Lys Pro Lys Val Leu Val Lys Glu
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 Ala Glu Lys Lys Leu Pro Ser Asp Thr Glu Lys Glu Asp Arg Ser Pro
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 Thr Tyr Val Gly Ala Leu Phe Asn Gly Leu Thr Leu Leu Ile Leu
 1130 1135 1140
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 1145 1150 1155
 Gln Ala Gln Ile Asp His Tyr Leu Gly Leu Ala Asn Lys Asn Val
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 35 40 45
 Leu Glu Glu Leu Glu Val Leu Glu Arg Lys Pro Ala Ala Gly Leu Ser
 50 55 60
 Ala Ala Pro Val Pro Thr Ala Pro Ala Ala Gly Ala Pro Leu Met Asp
 65 70 75 80
 Phe Gly Asn Asp Phe Val Pro Pro Ala Pro Arg Gly Pro Leu Pro Ala
 85 90 95
 Ala Pro Pro Val Ala Pro Glu Arg Gln Pro Ser Trp Asp Pro Ser Pro
 100 105 110
 Val Ser Ser Thr Val Pro Ala Pro Ser Pro Leu Ser Ala Ala Ala Val
 115 120 125
 Ser Pro Ser Lys Leu Pro Glu Asp Asp Glu Pro Pro Ala Arg Pro Pro
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 Pro Pro Pro Pro Ala Ser Val Ser Pro Gln Ala Glu Pro Val Trp Thr
 145 150 155 160
 Pro Pro Ala Pro Ala Pro Ala Ala Pro Pro Ser Thr Pro Ala Ala Pro
 165 170 175
 Lys Arg Arg Gly Ser Ser Gly Ser Val Val Val Asp Leu Leu Tyr Trp
 180 185 190
 Arg Asp Ile Lys Lys Thr Gly Val Val Phe Gly Ala Ser Leu Phe Leu
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 210 215 220
 Ala Leu Ala Leu Leu Ser Val Thr Ile Ser Phe Arg Ile Tyr Lys Gly
 225 230 235 240
 Val Ile Gln Ala Ile Gln Lys Ser Asp Glu Gly His Pro Phe Arg Ala
 245 250 255
 Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu Leu Val Gln Lys Tyr
 260 265 270
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 Arg Leu Phe Leu Val Asp Asp Leu Val Asp Ser Leu Lys Phe Ala Val
 290 295 300
 Leu Met Trp Val Phe Thr Tyr Val Gly Ala Leu Phe Asn Gly Leu Thr
 305 310 315 320
 Leu Leu Ile Leu Ala Leu Ile Ser Leu Phe Ser Val Pro Val Ile Tyr
 325 330 335
 Glu Arg His Gln Ala Gln Ile Asp His Tyr Leu Gly Leu Ala Asn Lys
 340 345 350
 Asn Val Lys Asp Ala Met Ala Lys Ile Gln Ala Lys Ile Pro Gly Leu
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 Lys Arg Lys Ala Glu
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Phe Leu Leu Leu Ser Leu Thr Val Phe Ser Ile Val Ser Val Thr Ala
35 40 45

Tyr Ile Ala Leu Ala Leu Leu Ser Val Thr Ile Ser Phe Arg Ile Tyr
50 55 60

Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu Gly His Pro Phe
65 70 75 80

Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu Leu Val Gln
85 90 95

Lys Tyr Ser Asn Ser Ala Leu Gly His Val Asn Cys Thr Ile Lys Glu
100 105 110

Leu Arg Arg Leu Phe Leu Val Asp Asp Leu Val Asp Ser Leu Lys Phe
115 120 125

Ala Val Leu Met Trp Val Phe Thr Tyr Val Gly Ala Leu Phe Asn Gly
130 135 140

Leu Thr Leu Leu Ile Leu Ala Leu Ile Ser Leu Phe Ser Val Pro Val
145 150 155 160

Ile Tyr Glu Arg His Gln Ala Gln Ile Asp His Tyr Leu Gly Leu Ala
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Gly Leu Lys Arg Lys Ala Glu
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<213> Homo sapiens

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35 40 45

Ala Pro Arg Phe Ala Arg Leu His Gly Ile Ser Gly Trp Ser Pro Arg
50 55 60

Ile Gly Asp Pro Asn Pro Trp Leu Gln Ile Asp Leu Met Lys Lys His
65 70 75 80

Arg Ile Arg Ala Val Ala Thr Gln Gly Ser Phe Asn Ser Trp Asp Trp
85 90 95

Val Thr Arg Tyr Met Leu Leu Tyr Gly Asp Arg Val Asp Ser Trp Thr
100 105 110

Pro Phe Tyr Gln Arg Gly His Asn Ser Thr Phe Phe Gly Asn Val Asn
115 120 125

Glu Ser Ala Val Val Arg His Asp Leu His Phe His Phe Thr Ala Arg
 130 135 140
 Tyr Ile Arg Ile Val Pro Leu Ala Trp Asn Pro Arg Gly Lys Ile Gly
 145 150 155 160
 Leu Arg Leu Gly Leu Tyr Gly Cys Pro Tyr Lys Ala Asp Ile Leu Tyr
 165 170 175
 Phe Asp Gly Asp Asp Ala Ile Ser Tyr Arg Phe Pro Arg Gly Val Ser
 180 185 190
 Arg Ser Leu Trp Asp Val Phe Ala Phe Ser Phe Lys Thr Glu Glu Lys
 195 200 205
 Asp Gly Leu Leu Leu His Ala Glu Gly Ala Gln Gly Asp Tyr Val Thr
 210 215 220
 Leu Glu Leu Glu Gly Ala His Leu Leu Leu His Met Ser Leu Gly Ser
 225 230 235 240
 Ser Pro Ile Gln Pro Arg Pro Gly His Thr Thr Val Ser Ala Gly Gly
 245 250 255
 Val Leu Asn Asp Gln His Trp His Tyr Val Arg Val Asp Arg Phe Gly
 260 265 270
 Arg Asp Val Asn Phe Thr Leu Asp Gly Tyr Val Gln Arg Phe Ile Leu
 275 280 285
 Asn Gly Asp Phe Glu Arg Leu Asn Leu Asp Thr Glu Met Phe Ile Gly
 290 295 300
 Gly Leu Val Gly Ala Ala Arg Lys Asn Leu Ala Tyr Arg His Asn Phe
 305 310 315 320
 Arg Gly Cys Ile Glu Asn Val Ile Phe Asn Arg Val Asn Ile Ala Asp
 325 330 335
 Leu Ala Val Arg Arg His Ser Arg Ile Thr Phe Glu Gly Lys Val Ala
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 Phe Arg Cys Leu Asp Pro Val Pro His Pro Ile Asn Phe Gly Gly Pro
 355 360 365
 His Asn Phe Val Gln Val Pro Gly Phe Pro Arg Arg Gly Arg Leu Ala
 370 375 380
 Val Ser Phe Arg Phe Arg Thr Trp Asp Leu Thr Gly Leu Leu Leu Phe
 385 390 395 400
 Ser Arg Leu Gly Asp Gly Leu Gly His Val Glu Leu Thr Leu Ser Glu
 405 410 415
 Gly Gln Val Asn Val Ser Ile Ala Gln Ser Gly Arg Lys Lys Leu Gln
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 Phe Ala Ala Gly Tyr Arg Leu Asn Asp Gly Phe Trp His Glu Val Asn
 435 440 445
 Phe Val Ala Gln Glu Asn His Ala Val Ile Ser Ile Asp Asp Val Glu
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 Gly Ala Glu Val Arg Val Ser Tyr Pro Leu Leu Ile Arg Thr Gly Thr
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 Ser Tyr Phe Phe Gly Gly Cys Pro Lys Pro Ala Ser Arg Trp Asp Cys
 485 490 495
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Phe Tyr Ala Glu Val Leu Phe Asp Thr Cys Gly Ile Thr Asp Arg Cys		
530	535	540
Ser Pro Asn Met Cys Glu His Asp Gly Arg Cys Tyr Gln Ser Trp Asp		
545	550	555
Asp Phe Ile Cys Tyr Cys Glu Leu Thr Gly Tyr Lys Gly Glu Thr Cys		
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His Thr Pro Leu Tyr Lys Glu Ser Cys Glu Ala Tyr Arg Leu Ser Gly		
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Lys Thr Ser Gly Asn Phe Thr Ile Asp Pro Asp Gly Ser Gly Pro Leu		
595	600	605
Lys Pro Phe Val Val Tyr Cys Asp Ile Arg Glu Asn Arg Ala Trp Thr		
610	615	620
Val Val Arg His Asp Arg Leu Trp Thr Thr Arg Val Thr Gly Ser Ser		
625	630	635
Met Glu Arg Pro Phe Leu Gly Ala Ile Gln Tyr Trp Asn Ala Ser Trp		
645	650	655
Glu Glu Val Ser Ala Leu Ala Asn Ala Ser Gln His Cys Glu Gln Trp		
660	665	670
Ile Glu Phe Ser Cys Tyr Asn Ser Arg Leu Leu Asn Thr Ala Gly Gly		
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Tyr Pro Tyr Ser Phe Trp Ile Gly Arg Asn Glu Glu Gln His Phe Tyr		
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Trp Gly Gly Ser Gln Pro Gly Ile Gln Arg Cys Ala Cys Gly Leu Asp		
705	710	715
Arg Ser Cys Val Asp Pro Ala Leu Tyr Cys Asn Cys Asp Ala Asp Gln		
725	730	735
Pro Gln Trp Arg Thr Asp Lys Gly Leu Leu Thr Phe Val Asp His Leu		
740	745	750
Pro Val Thr Gln Val Val Ile Gly Asp Thr Asn Arg Ser Thr Ser Glu		
755	760	765
Ala Gln Phe Phe Leu Arg Pro Leu Arg Cys Tyr Gly Asp Arg Asn Ser		
770	775	780
Trp Asn Thr Ile Ser Phe His Thr Gly Ala Ala Leu Arg Phe Pro Pro		
785	790	795
Ile Arg Ala Asn His Ser Leu Asp Val Ser Phe Tyr Phe Arg Thr Ser		
805	810	815
Ala Pro Ser Gly Val Phe Leu Glu Asn Met Gly Gly Pro Tyr Cys Gln		
820	825	830
Trp Arg Arg Pro Tyr Val Arg Val Glu Leu Asn Thr Ser Arg Asp Val		
835	840	845
Val Phe Ala Phe Asp Val Gly Asn Gly Asp Glu Asn Leu Thr Val His		
850	855	860
Ser Asp Asp Phe Glu Phe Asn Asp Asp Glu Trp His Leu Val Arg Ala		
865	870	880

Glu Ile Asn Val Lys Gln Ala Arg Leu Arg Val Asp His Arg Pro Trp
 885 890 895
 Val Leu Arg Pro Met Pro Leu Gln Thr Tyr Ile Trp Met Glu Tyr Asp
 900 905 910
 Gln Pro Leu Tyr Val Gly Ser Ala Glu Leu Lys Arg Arg Pro Phe Val
 915 920 925
 Gly Cys Leu Arg Ala Met Arg Leu Asn Gly Val Thr Leu Asn Leu Glu
 930 935 940
 Gly Arg Ala Asn Ala Ser Glu Gly Thr Ser Pro Asn Cys Thr Gly His
 945 950 955 960
 Cys Ala His Pro Arg Leu Pro Cys Phe His Gly Gly Arg Cys Val Glu
 965 970 975
 Arg Tyr Ser Tyr Tyr Thr Cys Asp Cys Asp Leu Thr Ala Phe Asp Gly
 980 985 990
 Pro Tyr Cys Asn His Asp Ile Gly Gly Phe Phe Glu Pro Gly Thr Trp
 995 1000 1005
 Met Arg Tyr Asn Leu Gln Ser Ala Leu Arg Ser Ala Ala Arg Glu
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 Phe Ser His Met Leu Ser Arg Pro Val Pro Gly Tyr Glu Pro Gly
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 Tyr Ile Pro Gly Tyr Asp Thr Pro Gly Tyr Val Pro Gly Tyr His
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 Gly Pro Gly Tyr Arg Leu Pro Asp Tyr Pro Arg Pro Gly Arg Pro
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 Val Pro Gly Tyr Arg Gly Pro Val Tyr Asn Val Thr Gly Glu Glu
 1070 1075 1080
 Val Ser Phe Ser Phe Ser Thr Ser Ser Ala Pro Ala Val Leu Leu
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 Tyr Val Ser Ser Phe Val Arg Asp Tyr Met Ala Val Leu Ile Lys
 1100 1105 1110
 Asp Asp Gly Thr Leu Gln Leu Arg Tyr Gln Leu Gly Thr Ser Pro
 1115 1120 1125
 Tyr Val Tyr Gln Leu Thr Thr Arg Pro Val Thr Asp Gly Gln Pro
 1130 1135 1140
 His Ser Ile Asn Ile Thr Arg Val Tyr Arg Asn Leu Phe Ile Gln
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 Val Asp Tyr Phe Pro Leu Thr Glu Gln Lys Phe Ser Leu Leu Val
 1160 1165 1170
 Asp Ser Gln Leu Asp Ser Pro Lys Ala Leu Tyr Leu Gly Arg Val
 1175 1180 1185
 Met Glu Thr Gly Val Ile Asp Pro Glu Ile Gln Arg Tyr Asn Thr
 1190 1195 1200
 Pro Gly Phe Ser Gly Cys Leu Ser Gly Val Arg Phe Asn Asn Val
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 Ala Pro Leu Lys Thr His Phe Arg Thr Pro Arg Pro Met Thr Ala
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 Glu Leu Ala Glu Ala Leu Arg Val Gln Gly Glu Leu Ser Glu Ser
 1235 1240 1245

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Glu	Gly	Trp	Val	Ala	Ile	Leu	Leu	Gly	Phe	Leu	Val	Ala	Phe	Leu
1280						1285					1290			
Leu	Leu	Gly	Leu	Val	Gly	Met	Leu	Val	Leu	Phe	Tyr	Leu	Gln	Asn
1295						1300					1305			
His	Arg	Tyr	Lys	Gly	Ser	Tyr	His	Thr	Asn	Glu	Pro	Lys	Ala	Ala
1310						1315					1320			
His	Glu	Tyr	His	Pro	Gly	Ser	Lys	Pro	Pro	Leu	Pro	Thr	Ser	Gly
1325						1330					1335			
Pro	Ala	Gln	Val	Pro	Thr	Pro	Thr	Ala	Ala	Pro	Asn	Gln	Ala	Pro
1340						1345					1350			
Ala	Ser	Ala	Pro	Ala	Pro	Ala	Pro	Thr	Pro	Ala	Pro	Ala	Pro	Gly
1355						1360					1365			
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Glu

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<212>	PRT
<213>	Homo sapiens

<400>	5
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							20				25				30
Leu	Val	Gln	Lys	Tyr	Ser	Asn	Ser	Ala	Leu	Gly	His	Val	Asn	Cys	Thr
							35				40				45
Ile	Lys	Glu	Leu	Arg	Arg	Leu	Phe	Leu	Val	Asp	Leu	Val	Asp	Ser	Leu
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Lys
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<220>
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Val Leu Glu Glu Ser Ile Ala Val Glu Ser Glu Leu Tyr Ala Arg Phe
35 40 45

Pro His Gly Glu Asp Ser Lys Gln Ile Ala Gln Ile Val Gly Lys Tyr
50 55 60

Ile Arg
65

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<211> 27
<212> DNA
<213> Artificial sequence

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<400> 9
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<210> 11
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<400> 11
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<210> 12
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20 25 30

Ser Glu Glu Asp Lys Gly Phe Gly Pro Ile Phe Glu Glu Gln Pro Ile
35 40 45

Asn Thr Ile Tyr Pro Glu Glu Ser Leu Glu Gly Lys Val Ser Leu Asn
50 55 60

Cys Arg Ala Arg Ala Ser Pro Phe Pro Val Tyr Lys Trp Arg Met Asn
65 70 75 80

Asn Gly Asp Val Asp Leu Thr Ser Asp Arg Tyr Ser Met Val Gly Gly
85 90 95

Asn Leu Val Ile Asn Asn Pro Asp Lys Gln Lys Asp Ala Gly Ile Tyr
100 105 110

Tyr Cys Leu Ala Ser Asn Asn Tyr Gly Met Val Arg Ser Thr Glu Ala
115 120 125

Thr Leu Ser Phe Gly Tyr Leu Asp Pro Phe Pro Pro Glu Glu Arg Pro
130 135 140

Glu Val Arg Val Lys Glu Gly Lys Gly Met Val Leu Leu Cys Asp Pro
145 150 155 160

Pro Tyr His Phe Pro Asp Asp Leu Ser Tyr Arg Trp Leu Leu Asn Glu
165 170 175

Phe Pro Val Phe Ile Thr Met Asp Lys Arg Arg Phe Val Ser Gln Thr
180 185 190

Asn Gly Asn Leu Tyr Ile Ala Asn Val Glu Ala Ser Asp Lys Gly Asn
195 200 205

Tyr Ser Cys Phe Val Ser Ser Pro Ser Ile Thr Lys Ser Val Phe Ser
210 215 220

Lys Phe Ile Pro Leu Ile Pro Ile Pro Glu Arg Thr Thr Lys Pro Tyr
225 230 235 240

Pro Ala Asp Ile Val Val Gln Phe Lys Asp Val Tyr Ala Leu Met Gly
245 250 255

Gln Asn Val Thr Leu Glu Cys Phe Ala Leu Gly Asn Pro Val Pro Asp
260 265 270

Ile Arg Trp Arg Lys Val Leu Glu Pro Met Pro Ser Thr Ala Glu Ile
275 280 285

Ser Thr Ser Gly Ala Val Leu Lys Ile Phe Asn Ile Gln Leu Glu Asp
290 295 300

Glu Gly Ile Tyr Glu Cys Glu Ala Glu Asn Ile Arg Gly Lys Asp Lys

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Val Ala Thr Gly Lys Pro Ile Pro Thr Ile Arg Trp Leu Lys Asn Gly			
355	360	365	
Tyr Ala Tyr His Lys Gly Glu Leu Arg Leu Tyr Asp Val Thr Phe Glu			
370	375	380	
Asn Ala Gly Met Tyr Gln Cys Ile Ala Glu Asn Thr Tyr Gly Ala Ile			
385	390	395	400
Tyr Ala Asn Ala Glu Leu Lys Ile Leu Ala Leu Ala Pro Thr Phe Glu			
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Met Asn Pro Met Lys Lys Ile Leu Ala Ala Lys Gly Gly Arg Val			
420	425	430	
Ile Ile Glu Cys Lys Pro Lys Ala Ala Pro Lys Pro Lys Phe Ser Trp			
435	440	445	
Ser Lys Gly Thr Glu Trp Leu Val Asn Ser Ser Arg Ile Leu Ile Trp			
450	455	460	
Glu Asp Gly Ser Leu Glu Ile Asn Asn Ile Thr Arg Asn Asp Gly Gly			
465	470	475	480
Ile Tyr Thr Cys Phe Ala Glu Asn Asn Arg Gly Lys Ala Asn Ser Thr			
485	490	495	
Gly Thr Leu Val Ile Thr Asp Pro Thr Arg Ile Ile Leu Ala Pro Ile			
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515	520	525	
Ser Phe Asp Pro Ala Leu Asp Leu Thr Phe Val Trp Ser Phe Asn Gly			
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Tyr Val Ile Asp Phe Asn Lys Glu Asn Ile His Tyr Gln Arg Asn Phe			
545	550	555	560
Met Leu Asp Ser Asn Gly Glu Leu Leu Ile Arg Asn Ala Gln Leu Lys			
565	570	575	
His Ala Gly Arg Tyr Thr Cys Thr Ala Gln Thr Ile Val Asp Asn Ser			
580	585	590	
Ser Ala Ser Ala Asp Leu Val Val Arg Gly Pro Pro Gly Pro Pro Gly			
595	600	605	
Gly Leu Arg Ile Glu Asp Ile Arg Ala Thr Ser Val Ala Leu Thr Trp			
610	615	620	
Ser Arg Gly Ser Asp Asn His Ser Pro Ile Ser Lys Tyr Thr Ile Gln			
625	630	635	640
Thr Lys Thr Ile Leu Ser Asp Asp Trp Lys Asp Ala Lys Thr Asp Pro			
645	650	655	
Pro Ile Ile Glu Gly Asn Met Glu Ala Ala Arg Ala Val Asp Leu Ile			
660	665	670	
Pro Trp Met Glu Tyr Glu Phe Arg Val Val Ala Thr Asn Thr Leu Gly			
675	680	685	

Arg Gly Glu Pro Ser Ile Pro Ser Asn Arg Ile Lys Thr Asp Gly Ala
 690 695 700
 Ala Pro Asn Val Ala Pro Ser Asp Val Gly Gly Gly Gly Arg Asn
 705 710 715 720
 Arg Glu Leu Thr Ile Thr Trp Ala Pro Leu Ser Arg Glu Tyr His Tyr
 725 730 735
 Gly Asn Asn Phe Gly Tyr Ile Val Ala Phe Lys Pro Phe Asp Gly Glu
 740 745 750
 Glu Trp Lys Lys Val Thr Val Thr Asn Pro Asp Thr Gly Arg Tyr Val
 755 760 765
 His Lys Asp Glu Thr Met Ser Pro Ser Thr Ala Phe Gln Val Lys Val
 770 775 780
 Lys Ala Phe Asn Asn Lys Gly Asp Gly Pro Tyr Ser Leu Leu Ala Val
 785 790 795 800
 Ile Asn Ser Ala Gln Asp Ala Pro Ser Glu Ala Pro Thr Glu Val Gly
 805 810 815
 Val Lys Val Leu Ser Ser Ser Glu Ile Ser Val His Trp Glu His Val
 820 825 830
 Leu Glu Lys Ile Val Glu Ser Tyr Gln Ile Arg Tyr Trp Ala Ala His
 835 840 845
 Asp Lys Glu Glu Ala Ala Asn Arg Val Gln Val Thr Ser Gln Glu Tyr
 850 855 860
 Ser Ala Arg Leu Glu Asn Leu Leu Pro Asp Thr Gln Tyr Phe Ile Glu
 865 870 875 880
 Val Gly Ala Cys Asn Ser Ala Gly Cys Gly Pro Pro Ser Asp Met Ile
 885 890 895
 Glu Ala Phe Thr Lys Lys Ala Pro Pro Ser Gln Pro Pro Arg Ile Ile
 900 905 910
 Ser Ser Val Arg Ser Gly Ser Arg Tyr Ile Ile Thr Trp Asp His Val
 915 920 925
 Val Ala Leu Ser Asn Glu Ser Thr Val Thr Gly Tyr Lys Val Leu Tyr
 930 935 940
 Arg Pro Asp Gly Gln His Asp Gly Lys Leu Tyr Ser Thr His Lys His
 945 950 955 960
 Ser Ile Glu Val Pro Ile Pro Arg Asp Gly Glu Tyr Val Val Glu Val
 965 970 975
 Arg Ala His Ser Asp Gly Gly Asp Gly Val Val Ser Gln Val Lys Ile
 980 985 990
 Ser Gly Ala Pro Thr Leu Ser Pro Ser Leu Leu Gly Leu Leu Leu Pro
 995 1000 1005
 Ala Phe Gly Ile Leu Val Tyr Leu Glu Phe
 1010 1015
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Met Arg Leu Leu Trp Lys Leu Val Ile Leu Leu Pro Leu Ile Asn Ser

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20	25	30	
His Asp Val Ile Phe Pro Leu Asp Leu Ser Lys Ser Glu Val Ile Leu			
35	40	45	
Asn Cys Ala Ala Asn Gly Tyr Pro Ser Pro His Tyr Arg Trp Lys Gln			
50	55	60	
Asn Gly Thr Asp Ile Asp Phe Thr Met Ser Tyr His Tyr Arg Leu Asp			
65	70	75	80
Gly Gly Ser Leu Ala Ile Asn Ser Pro His Thr Asp Gln Asp Ile Gly			
85	90	95	
Met Tyr Gln Cys Leu Ala Thr Asn Leu Leu Gly Thr Ile Leu Ser Arg			
100	105	110	
Lys Ala Lys Leu Gln Phe Ala Tyr Ile Glu Asp Phe Glu Thr Lys Thr			
115	120	125	
Arg Ser Thr Val Ser Val Arg Glu Gly Gln Gly Val Val Leu Leu Cys			
130	135	140	
Gly Pro Pro Pro His Phe Gly Asp Leu Ser Tyr Ala Trp Thr Phe Asn			
145	150	155	160
Asp Asn Pro Leu Tyr Val Gln Glu Asp Asn Arg Arg Phe Val Ser Gln			
165	170	175	
Glu Thr Gly Asn Leu Tyr Ile Ala Lys Val Glu Pro Ser Asp Val Gly			
180	185	190	
Asn Tyr Thr Cys Phe Ile Thr Asn Lys Glu Ala Gln Arg Ser Val Gln			
195	200	205	
Gly Pro Pro Thr Pro Leu Val Gln Arg Thr Asp Gly Val Met Gly Glu			
210	215	220	
Tyr Glu Pro Lys Ile Glu Val Arg Phe Pro Glu Thr Ile Gln Ala Ala			
225	230	235	240
Lys Asp Ser Ser Val Lys Leu Glu Cys Phe Ala Leu Gly Asn Pro Val			
245	250	255	
Pro Asp Ile Ser Trp Arg Arg Leu Asp Gly Ser Pro Leu Pro Gly Lys			
260	265	270	
Val Lys Tyr Ser Lys Ser Gln Ala Ile Leu Glu Ile Pro Asn Phe Gln			
275	280	285	
Gln Glu Asp Glu Gly Phe Tyr Glu Cys Ile Ala Ser Asn Leu Arg Gly			
290	295	300	
Arg Asn Leu Ala Lys Gly Gln Leu Ile Phe Tyr Ala Pro Pro Glu Trp			
305	310	315	320
Glu Gln Lys Ile Gln Asn Thr His Leu Ser Ile Tyr Asp Asn Leu Leu			
325	330	335	
Trp Glu Cys Lys Ala Ser Gly Lys Pro Asn Pro Trp Tyr Thr Trp Leu			
340	345	350	
Lys Asn Gly Glu Arg Leu Asn Pro Glu Glu Arg Ile Gln Ile Glu Asn			
355	360	365	
Gly Thr Leu Ile Ile Thr Met Leu Asn Val Ser Asp Ser Gly Val Tyr			
370	375	380	

Gln Cys Ala Ala Glu Asn Lys Tyr Gln Ile Ile Tyr Ala Asn Ala Glu
 385 390 395 400

Leu Arg Val Leu Ala Ser Ala Pro Asp Phe Ser Lys Ser Pro Val Lys
 405 410 415

Lys Lys Ser Phe Val Gln Val Gly Gly Asp Ile Val Ile Gly Cys Lys
 420 425 430

Pro Asn Ala Phe Pro Arg Ala Ala Ile Ser Trp Lys Arg Gly Thr Glu
 435 440 445

Thr Leu Arg Gln Ser Lys Arg Ile Phe Leu Leu Glu Asp Gly Ser Leu
 450 455 460

Lys Ile Tyr Asn Ile Thr Arg Ser Asp Ala Gly Ser Tyr Thr Cys Ile
 465 470 475 480

Ala Thr Asn Gln Phe Gly Thr Ala Lys Asn Thr Gly Ser Leu Ile Val
 485 490 495

Lys Glu Arg Thr Val Ile Thr Val Pro Pro Ser Lys Met Asp Val Thr
 500 505 510

Val Gly Glu Ser Ile Val Leu Pro Cys Gln Val Ser His Asp Pro Ser
 515 520 525

Ile Glu Val Val Phe Val Trp Phe Phe Asn Gly Asp Val Ile Asp Leu
 530 535 540

Lys Lys Gly Val Ala His Phe Glu Arg Ile Gly Gly Glu Ser Val Gly
 545 550 555 560

Asp Leu Met Ile Arg Asn Ile Gln Leu His His Ser Gly Lys Tyr Leu
 565 570 575

Cys Thr Val Gln Thr Thr Leu Glu Ser Leu Ser Ala Val Ala Asp Ile
 580 585 590

Ile Val Arg Gly Pro Pro Gly Pro Pro Glu Asp Val Gln Val Glu Asp
 595 600 605

Ile Ser Ser Thr Thr Ser Gln Leu Ser Trp Arg Ala Gly Pro Asp Asn
 610 615 620

Asn Ser Pro Ile Gln Ile Phe Thr Ile Gln Thr Arg Thr Pro Phe Ser
 625 630 635 640

Val Gly Trp Gln Ala Val Ala Thr Val Pro Glu Ile Leu Asn Gly Lys
 645 650 655

Thr Tyr Asn Ala Thr Val Val Gly Leu Ser Pro Trp Val Glu Tyr Glu
 660 665 670

Phe Arg Val Val Ala Gly Asn Ser Ile Gly Ile Gly Glu Pro Ser Glu
 675 680 685

Pro Ser Glu Leu Leu Arg Thr Lys Ala Ser Val Pro Val Val Ala Pro
 690 695 700

Val Asn Ile His Gly Gly Gly Ser Arg Ser Glu Leu Val Ile Thr
 705 710 715 720

Trp Glu Ser Ile Pro Glu Glu Leu Gln Asn Gly Glu Gly Phe Gly Tyr
 725 730 735

Ile Ile Met Phe Arg Pro Val Gly Ser Thr Thr Trp Ser Lys Glu Lys
 740 745 750

Val Ser Ser Val Glu Ser Ser Arg Phe Val Tyr Arg Asn Glu Ser Ile
 755 760 765

Ile Pro Leu Ser Pro Phe Glu Val Lys Val Gly Val Tyr Asn Asn Glu
 770 775 780
 Gly Glu Gly Ser Leu Ser Thr Val Thr Ile Val Tyr Ser Gly Glu Asp
 785 790 795 800
 Glu Pro Gln Leu Ala Pro Arg Gly Thr Ser Leu Gln Ser Phe Ser Ala
 805 810 815
 Ser Glu Met Glu Val Ser Trp Asn Ala Ile Ala Trp Asn Arg Asn Thr
 820 825 830
 Gly Arg Val Leu Gly Tyr Glu Val Leu Tyr Trp Thr Asp Asp Ser Lys
 835 840 845
 Glu Ser Met Ile Gly Lys Ile Arg Val Ser Gly Asn Val Thr Thr Lys
 850 855 860
 Asn Ile Thr Gly Leu Lys Ala Asn Thr Ile Tyr Phe Ala Ser Val Arg
 865 870 875 880
 Ala Tyr Asn Thr Ala Gly Thr Gly Pro Ser Ser Pro Pro Val Asn Val
 885 890 895
 Thr Thr Lys Lys Ser Pro Pro Ser Gln Pro Pro Ala Asn Ile Ala Trp
 900 905 910
 Lys Leu Thr Asn Ser Lys Leu Cys Leu Asn Trp Glu His Val Lys Thr
 915 920 925
 Met Glu Asn Glu Ser Glu Val Leu Gly Tyr Lys Ile Leu Tyr Arg Gln
 930 935 940
 Asn Arg Gln Ser Lys Thr His Ile Leu Glu Thr Asn Asn Thr Ser Ala
 945 950 955 960
 Glu Leu Leu Val Pro Phe Glu Glu Asp Tyr Leu Ile Glu Ile Arg Thr
 965 970 975
 Val Ser Asp Gly Gly Asp Gly Ser Ser Ser Glu Glu Ile Arg Ile Pro
 980 985 990
 Lys Met Ser Ser Leu Ser Ser Arg Gly Ile Gln Phe Leu Glu Pro Ser
 995 1000 1005
 Thr His Phe Leu Ser Ile Val Ile Val Ile Phe His Cys Phe Ala
 1010 1015 1020
 Ile Gln Pro Leu Ile
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 Leu Ala Ala Arg Gly Pro Arg Cys Ser Gln Pro Gly Glu Thr Cys Leu
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 Asn Gly Gly Lys Cys Glu Ala Ala Asn Gly Thr Glu Ala Cys Val Cys

35	40	45													
Gly	Gly	Ala	Phe	Val	Gly	Pro	Arg	Cys	Gln	Asp	Pro	Asn	Pro	Cys	Leu
50					55					60					
Ser	Thr	Pro	Cys	Lys	Asn	Ala	Gly	Thr	Cys	His	Val	Val	Asp	Arg	Arg
65					70				75					80	
Gly	Val	Ala	Asp	Tyr	Ala	Cys	Ser	Cys	Ala	Leu	Gly	Phe	Ser	Gly	Pro
					85				90					95	
Leu	Cys	Leu	Thr	Pro	Leu	Asp	Asn	Ala	Cys	Leu	Thr	Asn	Pro	Cys	Arg
					100				105					110	
Asn	Gly	Gly	Thr	Cys	Asp	Leu	Leu	Thr	Leu	Thr	Glu	Tyr	Lys	Cys	Arg
					115				120					125	
Cys	Pro	Pro	Gly	Trp	Ser	Gly	Lys	Ser	Cys	Gln	Gln	Ala	Asp	Pro	Cys
					130				135					140	
Ala	Ser	Asn	Pro	Cys	Ala	Asn	Gly	Gly	Gln	Cys	Leu	Pro	Phe	Glu	Ala
145					150				155					160	
Ser	Tyr	Ile	Cys	His	Cys	Pro	Pro	Ser	Phe	His	Gly	Pro	Thr	Cys	Arg
					165				170					175	
Gln	Asp	Val	Asn	Glu	Cys	Gly	Gln	Lys	Pro	Arg	Leu	Cys	Arg	His	Gly
					180				185					190	
Gly	Thr	Cys	His	Asn	Glu	Val	Gly	Ser	Tyr	Arg	Cys	Val	Cys	Arg	Ala
					195				200					205	
Thr	His	Thr	Gly	Pro	Asn	Cys	Glu	Arg	Pro	Tyr	Val	Pro	Cys	Ser	Pro
					210				215					220	
Ser	Pro	Cys	Gln	Asn	Gly	Gly	Thr	Cys	Arg	Pro	Thr	Gly	Asp	Val	Thr
					225				230					240	
His	Glu	Cys	Ala	Cys	Leu	Pro	Gly	Phe	Thr	Gly	Gln	Asn	Cys	Glu	Glu
					245				250					255	
Asn	Ile	Asp	Asp	Cys	Pro	Gly	Asn	Asn	Cys	Lys	Asn	Gly	Gly	Ala	Cys
					260				265					270	
Val	Asp	Gly	Val	Asn	Thr	Tyr	Asn	Cys	Pro	Cys	Pro	Pro	Glu	Trp	Thr
					275				280					285	
Gly	Gln	Tyr	Cys	Thr	Glu	Asp	Val	Asp	Glu	Cys	Gln	Leu	Met	Pro	Asn
					290				295					300	
Ala	Cys	Gln	Asn	Gly	Gly	Thr	Cys	His	Asn	Thr	His	Gly	Gly	Tyr	Asn
					305				310					320	
Cys	Val	Cys	Val	Asn	Gly	Trp	Thr	Gly	Glu	Asp	Cys	Ser	Glu	Asn	Ile
					325				330					335	
Asp	Asp	Cys	Ala	Ser	Ala	Ala	Cys	Phe	His	Gly	Ala	Thr	Cys	His	Asp
					340				345					350	
Arg	Val	Ala	Ser	Phe	Tyr	Cys	Glu	Cys	Pro	His	Gly	Arg	Thr	Gly	Leu
					355				360					365	
Leu	Cys	His	Leu	Asn	Asp	Ala	Cys	Ile	Ser	Asn	Pro	Cys	Asn	Glu	Gly
					370				375					380	
Ser	Asn	Cys	Asp	Thr	Asn	Pro	Val	Asn	Gly	Lys	Ala	Ile	Cys	Thr	Cys
					385				390					400	
Pro	Ser	Gly	Tyr	Thr	Gly	Pro	Ala	Cys	Ser	Gln	Asp	Val	Asp	Glu	Cys
					405				410					415	

Ser Leu Gly Ala Asn Pro Cys Glu His Ala Gly Lys Cys Ile Asn Thr
 420 425 430
 Leu Gly Ser Phe Glu Cys Gln Cys Leu Gln Gly Tyr Thr Gly Pro Arg
 435 440 445
 Cys Glu Ile Asp Val Asn Glu Cys Val Ser Asn Pro Cys Gln Asn Asp
 450 455 460
 Ala Thr Cys Leu Asp Gln Ile Gly Glu Phe Gln Cys Met Cys Met Pro
 465 470 475 480
 Gly Tyr Glu Gly Val His Cys Glu Val Asn Thr Asp Glu Cys Ala Ser
 485 490 495
 Ser Pro Cys Leu His Asn Gly Arg Cys Leu Asp Lys Ile Asn Glu Phe
 500 505 510
 Gln Cys Glu Cys Pro Thr Gly Phe Thr Gly His Leu Cys Gln Tyr Asp
 515 520 525
 Val Asp Glu Cys Ala Ser Thr Pro Cys Lys Asn Gly Ala Lys Cys Leu
 530 535 540
 Asp Gly Pro Asn Thr Tyr Thr Cys Val Cys Thr Glu Gly Tyr Thr Gly
 545 550 555 560
 Thr His Cys Glu Val Asp Ile Asp Glu Cys Asp Pro Asp Pro Cys His
 565 570 575
 Tyr Gly Ser Cys Lys Asp Gly Val Ala Thr Phe Thr Cys Leu Cys Arg
 580 585 590
 Pro Gly Tyr Thr Gly His His Cys Glu Thr Asn Ile Asn Glu Cys Ser
 595 600 605
 Ser Gln Pro Cys Arg Leu Arg Gly Thr Cys Gln Asp Pro Asp Asn Ala
 610 615 620
 Tyr Leu Cys Phe Cys Leu Lys Gly Thr Thr Gly Pro Asn Cys Glu Ile
 625 630 635 640
 Asn Leu Asp Asp Cys Ala Ser Ser Pro Cys Asp Ser Gly Thr Cys Leu
 645 650 655
 Asp Lys Ile Asp Gly Tyr Glu Cys Ala Cys Glu Pro Gly Tyr Thr Gly
 660 665 670
 Ser Met Cys Asn Ser Asn Ile Asp Glu Cys Ala Gly Asn Pro Cys His
 675 680 685
 Asn Gly Gly Thr Cys Glu Asp Gly Ile Asn Gly Phe Thr Cys Arg Cys
 690 695 700
 Pro Glu Gly Tyr His Asp Pro Thr Cys Leu Ser Glu Val Asn Glu Cys
 705 710 715 720
 Asn Ser Asn Pro Cys Val His Gly Ala Cys Arg Asp Ser Leu Asn Gly
 725 730 735
 Tyr Lys Cys Asp Cys Asp Pro Gly Trp Ser Gly Thr Asn Cys Asp Ile
 740 745 750
 Asn Asn Asn Glu Cys Glu Ser Asn Pro Cys Val Asn Gly Gly Thr Cys
 755 760 765
 Lys Asp Met Thr Ser Gly Ile Val Cys Thr Cys Arg Glu Gly Phe Ser
 770 775 780
 Gly Pro Asn Cys Gln Thr Asn Ile Asn Glu Cys Ala Ser Asn Pro Cys
 785 790 795 800

Leu Asn Lys Gly Thr Cys Ile Asp Asp Val Ala Gly Tyr Lys Cys Asn
 805 810 815
 Cys Leu Leu Pro Tyr Thr Gly Ala Thr Cys Glu Val Val Leu Ala Pro
 820 825 830
 Cys Ala Pro Ser Pro Cys Arg Asn Gly Gly Glu Cys Arg Gln Ser Glu
 835 840 845
 Asp Tyr Glu Ser Phe Ser Cys Val Cys Pro Thr Ala Gly Ala Lys Gly
 850 855 860
 Gln Thr Cys Glu Val Asp Ile Asn Glu Cys Val Leu Ser Pro Cys Arg
 865 870 875 880
 His Gly Ala Ser Cys Gln Asn Thr His Gly Xaa Tyr Arg Cys His Cys
 885 890 895
 Gln Ala Gly Tyr Ser Gly Arg Asn Cys Glu Thr Asp Ile Asp Asp Cys
 900 905 910
 Arg Pro Asn Pro Cys His Asn Gly Gly Ser Cys Thr Asp Gly Ile Asn
 915 920 925
 Thr Ala Phe Cys Asp Cys Leu Pro Gly Phe Arg Gly Thr Phe Cys Glu
 930 935 940
 Glu Asp Ile Asn Glu Cys Ala Ser Asp Pro Cys Arg Asn Gly Ala Asn
 945 950 955 960
 Cys Thr Asp Cys Val Asp Ser Tyr Thr Cys Thr Cys Pro Ala Gly Phe
 965 970 975
 Ser Gly Ile His Cys Glu Asn Asn Thr Pro Asp Cys Thr Glu Ser Ser
 980 985 990
 Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile Asn Ser Phe Thr Cys
 995 1000 1005
 Leu Cys Pro Pro Gly Phe Thr Gly Ser Tyr Cys Gln His Val Val
 1010 1015 1020
 Asn Glu Cys Asp Ser Arg Pro Cys Leu Leu Gly Gly Thr Cys Gln
 1025 1030 1035
 Asp Gly Arg Gly Leu His Arg Cys Thr Cys Pro Gln Gly Tyr Thr
 1040 1045 1050
 Gly Pro Asn Cys Gln Asn Leu Val His Trp Cys Asp Ser Ser Pro
 1055 1060 1065
 Cys Lys Asn Gly Gly Lys Cys Trp Gln Thr His Thr Gln Tyr Arg
 1070 1075 1080
 Cys Glu Cys Pro Ser Gly Trp Thr Gly Leu Tyr Cys Asp Val Pro
 1085 1090 1095
 Ser Val Ser Cys Glu Val Ala Ala Gln Arg Gln Gly Val Asp Val
 1100 1105 1110
 Ala Arg Leu Cys Gln His Gly Gly Leu Cys Val Asp Ala Gly Asn
 1115 1120 1125
 Thr His His Cys Arg Cys Gln Ala Gly Tyr Thr Gly Ser Tyr Cys
 1130 1135 1140
 Glu Asp Leu Val Asp Glu Cys Ser Pro Ser Pro Cys Gln Asn Gly
 1145 1150 1155
 Ala Thr Cys Thr Asp Tyr Leu Gly Gly Tyr Ser Cys Lys Cys Val

1160	1165	1170												
Ala	Gly	Tyr His	Gly Val	Asn	Cys	Ser	Glu	Glu	Ile	Asp	Glu	Cys		
1175				1180					1185					
Leu	Ser	His	Pro	Cys	Gln	Asn	Gly	Gly	Thr	Cys	Leu	Asp	Leu	Pro
1190					1195					1200				
Asn	Thr	Tyr	Lys	Cys	Ser	Cys	Pro	Arg	Gly	Thr	Gln	Gly	Val	His
1205					1210					1215				
Cys	Glu	Ile	Asn	Val	Asp	Asp	Cys	Asn	Pro	Pro	Val	Asp	Pro	Val
1220					1225					1230				
Ser	Arg	Ser	Pro	Lys	Cys	Phe	Asn	Asn	Gly	Thr	Cys	Val	Asp	Gln
1235					1240					1245				
Val	Gly	Gly	Tyr	Ser	Cys	Thr	Cys	Pro	Pro	Gly	Phe	Val	Gly	Glu
1250					1255					1260				
Arg	Cys	Glu	Gly	Asp	Val	Asn	Glu	Cys	Leu	Ser	Asn	Pro	Cys	Asp
1265					1270					1275				
Ala	Arg	Gly	Thr	Gln	Asn	Cys	Val	Gln	Arg	Val	Asn	Asp	Phe	His
1280					1285					1290				
Cys	Glu	Cys	Arg	Ala	Gly	His	Thr	Gly	Arg	Arg	Cys	Glu	Ser	Val
1295					1300					1305				
Ile	Asn	Gly	Cys	Lys	Gly	Lys	Pro	Cys	Lys	Asn	Gly	Gly	Thr	Cys
1310					1315					1320				
Ala	Val	Ala	Ser	Asn	Thr	Ala	Arg	Gly	Phe	Ile	Cys	Lys	Cys	Pro
1325					1330					1335				
Ala	Gly	Phe	Glu	Gly	Ala	Thr	Cys	Glu	Asn	Asp	Ala	Arg	Thr	Cys
1340					1345					1350				
Gly	Ser	Leu	Arg	Cys	Leu	Asn	Gly	Gly	Thr	Cys	Ile	Ser	Gly	Pro
1355					1360					1365				
Arg	Ser	Pro	Thr	Cys	Leu	Cys	Leu	Gly	Pro	Phe	Thr	Gly	Pro	Glu
1370					1375					1380				
Cys	Gln	Phe	Pro	Ala	Ser	Ser	Pro	Cys	Leu	Gly	Gly	Asn	Pro	Cys
1385					1390					1395				
Tyr	Asn	Gln	Gly	Thr	Cys	Glu	Pro	Thr	Ser	Glu	Ser	Pro	Phe	Tyr
1400					1405					1410				
Arg	Cys	Leu	Cys	Pro	Ala	Lys	Phe	Asn	Gly	Leu	Ile	Cys	His	Ile
1415					1420					1425				
Leu	Asp	Tyr	Ser	Phe	Gly	Gly	Gly	Ala	Gly	Arg	Asp	Ile	Pro	Pro
1430					1435					1440				
Pro	Leu	Ile	Glu	Glu	Ala	Cys	Glu	Leu	Pro	Glu	Cys	Gln	Glu	Asp
1445					1450					1455				
Ala	Gly	Asn	Lys	Val	Cys	Ser	Leu	Gln	Cys	Asn	Asn	His	Ala	Cys
1460					1465					1470				
Gly	Trp	Asp	Gly	Gly	Asp	Cys	Ser	Leu	Asn	Phe	Asn	Asp	Pro	Trp
1475					1480					1485				
Lys	Asn	Cys	Thr	Gln	Ser	Leu	Gln	Cys	Trp	Lys	Tyr	Phe	Ser	Asp
1490					1495					1500				
Gly	His	Cys	Asp	Ser	Gln	Cys	Asn	Ser	Ala	Gly	Cys	Leu	Phe	Asp
1505					1510					1515				

Gly	Phe	Asp	Cys	Gln	Arg	Ala	Glu	Gly	Gln	Cys	Asn	Pro	Leu	Tyr
1520						1525					1530			
Asp	Gln	Tyr	Cys	Lys	Asp	His	Phe	Ser	Asp	Gly	His	Cys	Asp	Gln
1535						1540					1545			
Gly	Cys	Asn	Ser	Ala	Glu	Cys	Glu	Trp	Asp	Gly	Leu	Asp	Cys	Ala
1550						1555					1560			
Glu	His	Val	Pro	Glu	Arg	Leu	Ala	Ala	Gly	Thr	Leu	Val	Val	Val
1565						1570					1575			
Val	Leu	Met	Pro	Pro	Glu	Gln	Leu	Arg	Asn	Ser	Ser	Phe	His	Phe
1580						1585					1590			
Leu	Arg	Glu	Leu	Ser	Arg	Val	Leu	His	Thr	Asn	Val	Val	Phe	Lys
1595						1600					1605			
Arg	Asp	Ala	His	Gly	Gln	Gln	Met	Ile	Phe	Pro	Tyr	Tyr	Gly	Arg
1610						1615					1620			
Glu	Glu	Glu	Leu	Arg	Lys	His	Pro	Ile	Lys	Arg	Ala	Ala	Glu	Gly
1625						1630					1635			
Trp	Ala	Ala	Pro	Asp	Ala	Leu	Leu	Gly	Gln	Val	Lys	Ala	Ser	Leu
1640						1645					1650			
Leu	Pro	Gly	Gly	Ser	Glu	Gly	Gly	Arg	Arg	Arg	Arg	Glu	Leu	Asp
1655						1660					1665			
Pro	Met	Asp	Val	Arg	Gly	Ser	Ile	Val	Tyr	Leu	Glu	Ile	Asp	Asn
1670						1675					1680			
Arg	Gln	Cys	Val	Gln	Ala	Ser	Ser	Gln	Cys	Phe	Gln	Ser	Ala	Thr
1685						1690					1695			
Asp	Val	Ala	Ala	Phe	Leu	Gly	Ala	Leu	Ala	Ser	Leu	Gly	Ser	Leu
1700						1705					1710			
Asn	Ile	Pro	Tyr	Lys	Ile	Glu	Ala	Val	Gln	Ser	Glu	Thr	Val	Glu
1715						1720					1725			
Pro	Pro	Pro	Pro	Ala	Gln	Leu	His	Phe	Met	Tyr	Val	Ala	Ala	Ala
1730						1735					1740			
Ala	Phe	Val	Leu	Leu	Phe	Phe	Val	Gly	Cys	Gly	Val	Leu	Leu	Ser
1745						1750					1755			
Arg	Lys	Arg	Arg	Arg	Gln	His	Gly	Gln	Leu	Trp	Phe	Pro	Glu	Gly
1760						1765					1770			
Phe	Lys	Val	Ser	Glu	Ala	Ser	Lys	Lys	Lys	Arg	Arg	Glu	Pro	Leu
1775						1780					1785			
Gly	Glu	Asp	Ser	Val	Gly	Leu	Lys	Pro	Leu	Lys	Asn	Ala	Ser	Asp
1790						1795					1800			
Gly	Ala	Leu	Met	Asp	Asp	Asn	Gln	Asn	Glu	Trp	Gly	Asp	Glu	Asp
1805						1810					1815			
Leu	Glu	Thr	Lys	Lys	Phe	Arg	Phe	Glu	Glu	Pro	Val	Val	Leu	Pro
1820						1825					1830			
Asp	Leu	Asp	Asp	Gln	Thr	Asp	His	Arg	Gln	Trp	Thr	Gln	Gln	His
1835						1840					1845			
Leu	Asp	Ala	Ala	Asp	Leu	Arg	Met	Ser	Ala	Met	Ala	Pro	Thr	Pro
1850						1855					1860			
Pro	Gln	Gly	Glu	Val	Asp	Ala	Asp	Cys	Met	Asp	Val	Asn	Val	Arg
1865						1870					1875			

Gly Pro Asp Gly Phe Thr Pro Leu Met Ile Ala Ser Cys Ser Gly
 1880 1885 1890
 Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu Asp Ala Pro
 1895 1900 1905
 Ala Val Ile Ser Asp Phe Ile Tyr Gln Gly Ala Ser Leu His Asn
 1910 1915 1920
 Gln Thr Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala Ala Arg
 1925 1930 1935
 Tyr Ser Arg Ser Asp Ala Ala Lys Arg Leu Leu Glu Ala Ser Ala
 1940 1945 1950
 Asp Ala Asn Ile Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala
 1955 1960 1965
 Ala Val Ser Ala Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg
 1970 1975 1980
 Asn Arg Ala Thr Asp Leu Asp Ala Arg Met His Asp Gly Thr Thr
 1985 1990 1995
 Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu Gly Met Leu Glu
 2000 2005 2010
 Asp Leu Ile Asn Ser His Ala Asp Val Asn Ala Val Asp Asp Leu
 2015 2020 2025
 Gly Lys Ser Ala Leu His Trp Ala Ala Ala Val Asn Asn Val Asp
 2030 2035 2040
 Ala Ala Val Val Leu Leu Lys Asn Gly Ala Asn Lys Asp Met Gln
 2045 2050 2055
 Asn Asn Arg Glu Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly
 2060 2065 2070
 Ser Tyr Glu Thr Ala Lys Val Leu Leu Asp His Phe Ala Asn Arg
 2075 2080 2085
 Asp Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp Ile Ala Gln
 2090 2095 2100
 Glu Arg Met His His Asp Ile Val Arg Leu Leu Asp Glu Tyr Asn
 2105 2110 2115
 Leu Val Arg Ser Pro Gln Leu His Gly Ala Pro Leu Gly Gly Thr
 2120 2125 2130
 Pro Thr Leu Ser Pro Pro Leu Cys Ser Pro Asn Gly Tyr Leu Gly
 2135 2140 2145
 Ser Leu Lys Pro Gly Val Gln Gly Lys Lys Val Arg Lys Pro Ser
 2150 2155 2160
 Ser Lys Gly Leu Ala Cys Gly Ser Lys Glu Ala Lys Asp Leu Lys
 2165 2170 2175
 Ala Arg Arg Lys Lys Ser Gln Asp Gly Lys Gly Cys Leu Leu Asp
 2180 2185 2190
 Ser Ser Gly Met Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His
 2195 2200 2205
 Gly Tyr Leu Ser Asp Val Ala Ser Pro Pro Leu Leu Pro Ser Pro
 2210 2215 2220
 Phe Gln Gln Ser Pro Ser Val Pro Leu Asn His Leu Pro Gly Met

2225	2230	2235
Pro Asp Thr His Leu Gly Ile 2240	Gly His Leu Asn Val 2245	Ala Ala Lys 2250
Pro Glu Met Ala Ala Leu Gly 2255	Gly Gly Gly Arg 2260	Leu Ala Phe Glu 2265
Thr Gly Pro Pro Arg Leu Ser 2270	His Leu Pro Val 2275	Ala Ser Gly Thr 2280
Ser Thr Val Leu Gly Ser Ser 2285	Ser Gly Gly Ala Leu 2290	Asn Phe Thr 2295
Val Gly Gly Ser Thr Ser Leu 2300	Asn Gly Gln Cys Glu 2305	Trp Leu Ser 2310
Arg Leu Gln Ser Gly Met Val 2315	Pro Asn Gln Tyr Asn 2320	Pro Leu Arg 2325
Gly Ser Val Ala Pro Gly Pro 2330	Leu Ser Thr Gln Ala 2335	Pro Ser Leu 2340
Gln His Gly Met Val Gly Pro 2345	Leu His Ser Ser Leu 2350	Ala Ala Ser 2355
Ala Leu Ser Gln Met Met Ser 2360	Tyr Gln Gly Leu Pro 2365	Ser Thr Arg 2370
Leu Ala Thr Gln Pro His Leu 2375	Val Gln Thr Gln Gln 2380	Val Gln Pro 2385
Gln Asn Leu Gln Met Gln Gln 2390	Gln Asn Leu Gln Pro 2395	Ala Asn Ile 2400
Gln Gln Gln Ser Leu Gln Pro 2405	Pro Pro Pro Pro Pro 2410	Pro Gln Pro 2415
His Leu Gly Val Ser Ser Ala 2420	Ala Ser Gly His Leu 2425	Gly Arg Ser 2430
Phe Leu Ser Gly Glu Pro Ser 2435	Gln Ala Asp Val Gln 2440	Pro Leu Gly 2445
Pro Ser Ser Leu Ala Val His 2450	Thr Ile Leu Pro Gln 2455	Glu Ser Pro 2460
Ala Leu Pro Thr Ser Leu Pro 2465	Ser Ser Leu Val Pro 2470	Pro Val Thr 2475
Ala Ala Gln Phe Leu Thr Pro 2480	Pro Ser Gln His Ser 2485	Tyr Ser Ser 2490
Pro Val Asp Asn Thr Pro Ser 2495	His Gln Leu Gln Val 2500	Pro Glu His 2505
Pro Phe Leu Thr Pro Ser Pro 2510	Glu Ser Pro Asp Gln 2515	Trp Ser Ser 2520
Ser Ser Pro His Ser Asn Val 2525	Ser Asp Trp Ser Glu 2530	Gly Val Ser 2535
Ser Pro Pro Thr Ser Met Gln 2540	Ser Gln Ile Ala Arg 2545	Ile Pro Glu 2550
Ala Phe Lys 2555		

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<213> Homo sapiens

<400> 16

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35 40 45

Gly Tyr Cys Lys Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
50 55 60

Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
65 70 75 80

Ala Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Ser Gly Phe
85 90 95

Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
100 105 110

Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser Arg Asp Thr
115 120 125

Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu Cys Gln Trp
130 135 140

Thr Asp Ala Cys Leu Ser His Pro Cys Ala Asn Gly Ser Thr Cys Thr
145 150 155 160

Thr Val Ala Asn Gln Phe Ser Cys Lys Cys Leu Thr Gly Phe Thr Gly
165 170 175

Gln Lys Cys Glu Thr Asp Val Asn Glu Cys Asp Ile Pro Gly His Cys
180 185 190

Gln His Gly Gly Thr Cys Leu Asn Leu Pro Gly Ser Tyr Gln Cys Gln
195 200 205

Cys Pro Gln Gly Phe Thr Gly Gln Tyr Cys Asp Ser Leu Tyr Val Pro
210 215 220

Cys Ala Pro Ser Pro Cys Val Asn Gly Gly Thr Cys Arg Gln Thr Gly
225 230 235 240

Asp Phe Thr Phe Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly Ser Thr
245 250 255

Cys Glu Arg Asn Ile Asp Asp Cys Pro Asn His Arg Cys Gln Asn Gly
260 265 270

Gly Val Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys Pro Pro
275 280 285

Gln Trp Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys Leu Leu
290 295 300

Gln Pro Asn Ala Cys Gln Asn Gly Gly Thr Cys Ala Asn Arg Asn Gly
305 310 315 320

Gly Tyr Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp Cys Ser
325 330 335

Glu Asn Ile Asp Asp Cys Ala Phe Ala Ser Cys Thr Pro Gly Ser Thr
340 345 350

Cys Ile Asp Arg Val Ala Ser Phe Ser Cys Met Cys Pro Glu Gly Lys

355	360	365	
Ala Gly Leu Leu Cys His	Leu Asp Asp Ala Cys	Ile Ser Asn Pro Cys	
370	375	380	
His Lys Gly Ala Leu Cys Asp	Thr Asn Pro Leu Asn Gly Gln	Tyr Ile	
385	390	395	400
Cys Thr Cys Pro Gln Gly Tyr Lys	Gly Ala Asp Cys Thr Glu Asp Val		
405	410	415	
Asp Glu Cys Ala Met Ala Asn Ser	Asn Pro Cys Glu His Ala Gly Lys		
420	425	430	
Cys Val Asn Thr Asp Gly Ala	Phe His Cys Glu Cys Leu Lys Gly Tyr		
435	440	445	
Ala Gly Pro Arg Cys Glu Met Asp	Ile Asn Glu Cys His Ser Asp Pro		
450	455	460	
Cys Gln Asn Asp Ala Thr Cys	Leu Asp Lys Ile Gly Gly Phe Thr Cys		
465	470	475	480
Leu Cys Met Pro Gly Phe Lys	Gly Val His Cys Glu Leu Glu Ile Asn		
485	490	495	
Glu Cys Gln Ser Asn Pro Cys Val	Asn Asn Gly Gln Cys Val Asp Lys		
500	505	510	
Val Asn Arg Phe Gln Cys Leu	Cys Pro Pro Gly Phe Thr Gly Pro Val		
515	520	525	
Cys Gln Ile Asp Ile Asp Asp	Cys Ser Ser Thr Pro Cys Leu Asn Gly		
530	535	540	
Ala Lys Cys Ile Asp His Pro Asn	Gly Tyr Glu Cys Gln Cys Ala Thr		
545	550	560	
Gly Phe Thr Gly Val Leu Cys	Glu Asn Ile Asp Asn Cys Asp Pro		
565	570	575	
Asp Pro Cys His His Gly Gln	Cys Asp Gly Ile Asp Ser Tyr Thr		
580	585	590	
Cys Ile Cys Asn Pro Gly Tyr	Met Gly Ala Ile Cys Ser Asp Gln Ile		
595	600	605	
Asp Glu Cys Tyr Ser Ser Pro	Cys Leu Asn Asp Gly Arg Cys Ile Asp		
610	615	620	
Leu Val Asn Gly Tyr Gln	Cys Asn Cys Gln Pro Gly Thr Ser Gly Val		
625	630	640	
Asn Cys Glu Ile Asn Phe Asp Asp	Cys Ala Ser Asn Pro Cys Ile His		
645	650	655	
Gly Ile Cys Met Asp Gly Ile Asn	Arg Tyr Ser Cys Val Cys Ser Pro		
660	665	670	
Gly Phe Thr Gly Gln Arg Cys	Asn Ile Asp Ile Asp Glu Cys Ala Ser		
675	680	685	
Asn Pro Cys Arg Lys Gly	Ala Thr Cys Ile Asn Gly Val Asn Gly Phe		
690	695	700	
Arg Cys Ile Cys Pro Glu	Gly Pro His His Pro Ser Cys Tyr Ser Gln		
705	710	715	720
Val Asn Glu Cys Leu Ser Asn	Pro Cys Ile His Gly Asn Cys Thr Gly		
725	730	735	

Gly Leu Ser Gly Tyr Lys Cys Leu Cys Asp Ala Gly Trp Val Gly Ile
 740 745 750
 Asn Cys Glu Val Asp Lys Asn Glu Cys Leu Ser Asn Pro Cys Gln Asn
 755 760 765
 Gly Gly Thr Cys Asp Asn Leu Val Asn Gly Tyr Arg Cys Thr Cys Lys
 770 775 780
 Lys Gly Phe Lys Gly Tyr Asn Cys Gln Val Asn Ile Asp Glu Cys Ala
 785 790 795 800
 Ser Asn Pro Cys Leu Asn Gln Gly Thr Cys Phe Asp Asp Ile Ser Gly
 805 810 815
 Tyr Thr Cys His Cys Val Leu Pro Tyr Thr Gly Lys Asn Cys Gln Thr
 820 825 830
 Val Leu Ala Pro Cys Ser Pro Asn Pro Cys Glu Asn Ala Ala Val Cys
 835 840 845
 Lys Glu Ser Pro Asn Phe Glu Ser Tyr Thr Cys Leu Cys Ala Pro Gly
 850 855 860
 Trp Gln Gly Gln Arg Cys Thr Ile Asp Ile Asp Glu Cys Ile Ser Lys
 865 870 875 880
 Pro Cys Met Asn His Gly Leu Cys His Asn Thr Gln Gly Ser Tyr Met
 885 890 895
 Cys Glu Cys Pro Pro Gly Phe Ser Gly Met Asp Cys Glu Glu Asp Ile
 900 905 910
 Asp Asp Cys Leu Ala Asn Pro Cys Gln Asn Gly Ser Cys Met Asp
 915 920 925
 Gly Val Asn Thr Phe Ser Cys Leu Cys Leu Pro Gly Phe Thr Gly Asp
 930 935 940
 Lys Cys Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn
 945 950 955 960
 Gly Gly Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Lys Cys Gln
 965 970 975
 Ala Gly Phe Asp Gly Val His Cys Glu Asn Asn Ile Asn Glu Cys Thr
 980 985 990
 Glu Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile Asn Ser
 995 1000 1005
 Phe Ser Cys Leu Cys Pro Val Gly Phe Thr Gly Ser Phe Cys Leu
 1010 1015 1020
 His Glu Ile Asn Glu Cys Ser Ser His Pro Cys Leu Asn Glu Gly
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 Thr Cys Val Asp Gly Leu Gly Thr Tyr Arg Cys Ser Cys Pro Leu
 1040 1045 1050
 Gly Tyr Thr Gly Lys Asn Cys Gln Thr Leu Val Asn Leu Cys Ser
 1055 1060 1065
 Arg Ser Pro Cys Lys Asn Lys Gly Thr Cys Val Gln Lys Lys Ala
 1070 1075 1080
 Glu Ser Gln Cys Leu Cys Pro Ser Gly Trp Ala Gly Ala Tyr Cys
 1085 1090 1095
 Asp Val Pro Asn Val Ser Cys Asp Ile Ala Ala Ser Arg Arg Gly
 1100 1105 1110

Val Leu Val Glu His Leu Cys Gln His Ser Gly Val Cys Ile Asn
 1115 1120 1125
 Ala Gly Asn Thr His Tyr Cys Gln Cys Pro Leu Gly Tyr Thr Gly
 1130 1135 1140
 Ser Tyr Cys Glu Glu Gln Leu Asp Glu Cys Ala Ser Asn Pro Cys
 1145 1150 1155
 Gln His Gly Ala Thr Cys Ser Asp Phe Ile Gly Gly Tyr Arg Cys
 1160 1165 1170
 Glu Cys Val Pro Gly Tyr Gln Gly Val Asn Cys Glu Tyr Glu Val
 1175 1180 1185
 Asp Glu Cys Gln Asn Gln Pro Cys Gln Asn Gly Gly Thr Cys Ile
 1190 1195 1200
 Asp Leu Val Asn His Phe Lys Cys Ser Cys Pro Pro Gly Thr Arg
 1205 1210 1215
 Gly Leu Leu Cys Glu Glu Asn Ile Asp Asp Cys Ala Arg Gly Pro
 1220 1225 1230
 His Cys Leu Asn Gly Gly Gln Cys Met Asp Arg Ile Gly Gly Tyr
 1235 1240 1245
 Ser Cys Arg Cys Leu Pro Gly Phe Ala Gly Glu Arg Cys Glu Gly
 1250 1255 1260
 Asp Ile Asn Glu Cys Leu Ser Asn Pro Cys Ser Ser Glu Gly Ser
 1265 1270 1275
 Leu Asp Cys Ile Gln Leu Thr Asn Asp Tyr Leu Cys Val Cys Arg
 1280 1285 1290
 Ser Ala Phe Thr Gly Arg His Cys Glu Thr Phe Val Asp Val Cys
 1295 1300 1305
 Pro Gln Met Pro Cys Leu Asn Gly Gly Thr Cys Ala Val Ala Ser
 1310 1315 1320
 Asn Met Pro Asp Gly Phe Ile Cys Arg Cys Pro Pro Gly Phe Ser
 1325 1330 1335
 Gly Ala Arg Cys Gln Ser Ser Cys Gly Gln Val Lys Cys Arg Lys
 1340 1345 1350
 Gly Glu Gln Cys Val His Thr Ala Ser Gly Pro Arg Cys Phe Cys
 1355 1360 1365
 Pro Ser Pro Arg Asp Cys Glu Ser Gly Cys Ala Ser Ser Pro Cys
 1370 1375 1380
 Gln His Gly Gly Ser Cys His Pro Gln Arg Gln Pro Pro Tyr Tyr
 1385 1390 1395
 Ser Cys Gln Cys Ala Pro Pro Phe Ser Gly Ser Arg Cys Glu Leu
 1400 1405 1410
 Tyr Thr Ala Pro Pro Ser Thr Pro Pro Ala Thr Cys Leu Ser Gln
 1415 1420 1425
 Tyr Cys Ala Asp Lys Ala Arg Asp Gly Val Cys Asp Glu Ala Cys
 1430 1435 1440
 Asn Ser His Ala Cys Gln Trp Asp Gly Gly Asp Cys Ser Leu Thr
 1445 1450 1455
 Met Glu Asn Pro Trp Ala Asn Cys Ser Ser Pro Leu Pro Cys Trp

1460	1465	1470			
Asp	Tyr	Ile Asn Asn Gln	Cys	Asp Glu Leu Cys	Asn Thr Val Glu
1475			1480		1485
Cys	Leu	Phe Asp Asn Phe	Glu	Cys Gln Gly Asn	Ser Lys Thr Cys
1490			1495		1500
Lys	Tyr	Asp Lys Tyr Cys	Ala	Asp His Phe Lys	Asp Asn His Cys
1505			1510		1515
Asn	Gln	Gly Cys Asn Ser	Glu	Glu Cys Gly Trp	Asp Gly Leu Asp
1520			1525		1530
Cys	Ala	Ala Asp Gln Pro	Glu	Asn Leu Ala Glu	Gly Thr Leu Val
1535			1540		1545
Ile	Val	Val Leu Met Pro	Pro	Glu Gln Leu Leu	Gln Asp Ala Arg
1550			1555		1560
Ser	Phe	Leu Arg Ala Leu	Gly	Thr Leu Leu His	Thr Asn Leu Arg
1565			1570		1575
Ile	Lys	Arg Asp Ser Gln	Gly	Glu Leu Met Val	Tyr Pro Tyr Tyr
1580			1585		1590
Gly	Glu	Lys Ser Ala Ala	Met	Lys Lys Gln Arg	Met Thr Arg Arg
1595			1600		1605
Ser	Leu	Pro Gly Glu Gln	Glu	Gln Glu Val Ala	Gly Ser Lys Val
1610			1615		1620
Phe	Leu	Glu Ile Asp Asn	Arg	Gln Cys Val Gln	Asp Ser Asp His
1625			1630		1635
Cys	Phe	Lys Asn Thr Asp	Ala	Ala Ala Ala Leu	Leu Ala Ser His
1640			1645		1650
Ala	Ile	Gln Gly Thr Leu	Ser	Tyr Pro Leu Val	Ser Val Val Ser
1655			1660		1665
Glu	Ser	Leu Thr Pro Glu	Arg	Thr Gln Leu Leu	Tyr Leu Leu Ala
1670			1675		1680
Val	Ala	Val Val Ile Ile	Leu	Phe Ile Ile Leu	Leu Gly Val Ile
1685			1690		1695
Met	Ala	Lys Arg Lys Arg	Lys	His Gly Ser Leu	Trp Leu Pro Glu
1700			1705		1710
Gly	Phe	Thr Leu Arg Arg	Asp	Ala Ser Asn His	Lys Arg Arg Glu
1715			1720		1725
Pro	Val	Gly Gln Asp Ala	Val	Gly Leu Lys Asn	Leu Ser Val Gln
1730			1735		1740
Val	Ser	Glu Ala Asn Leu	Ile	Gly Thr Gly Thr	Ser Glu His Trp
1745			1750		1755
Val	Asp	Asp Glu Gly Pro	Gln	Pro Lys Lys Val	Lys Ala Glu Asp
1760			1765		1770
Glu	Ala	Leu Leu Ser Glu	Glu	Asp Asp Pro Ile	Asp Arg Arg Pro
1775			1780		1785
Trp	Thr	Gln Gln His Leu	Glu	Ala Ala Asp Ile	Arg Arg Thr Pro
1790			1795		1800
Ser	Leu	Ala Leu Thr Pro	Pro	Gln Ala Glu Gln	Glu Val Asp Val
1805			1810		1815

Leu	Asp	Val	Asn	Val	Arg	Gly	Pro	Asp	Gly	Cys	Thr	Pro	Leu	Met
1820						1825					1830			
Leu	Ala	Ser	Leu	Arg	Gly	Gly	Ser	Ser	Asp	Leu	Ser	Asp	Glu	Asp
1835						1840					1845			
Glu	Asp	Ala	Glu	Asp	Ser	Ser	Ala	Asn	Ile	Ile	Thr	Asp	Leu	Val
1850						1855					1860			
Tyr	Gln	Gly	Ala	Ser	Leu	Gln	Ala	Gln	Thr	Asp	Arg	Thr	Gly	Glu
1865						1870					1875			
Met	Ala	Leu	His	Leu	Ala	Ala	Arg	Tyr	Ser	Arg	Ala	Asp	Ala	Ala
1880						1885					1890			
Lys	Arg	Leu	Leu	Asp	Ala	Gly	Ala	Asp	Ala	Asn	Ala	Gln	Asp	Asn
1895						1900					1905			
Met	Gly	Arg	Cys	Pro	Leu	His	Ala	Ala	Val	Ala	Ala	Asp	Ala	Gln
1910						1915					1920			
Gly	Val	Phe	Gln	Ile	Leu	Ile	Arg	Asn	Arg	Val	Thr	Asp	Leu	Asp
1925						1930					1935			
Ala	Arg	Met	Asn	Asp	Gly	Thr	Thr	Pro	Leu	Ile	Leu	Ala	Ala	Arg
1940						1945					1950			
Leu	Ala	Val	Glu	Gly	Met	Val	Ala	Glu	Leu	Ile	Asn	Cys	Gln	Ala
1955						1960					1965			
Asp	Val	Asn	Ala	Val	Asp	Asp	His	Gly	Lys	Ser	Ala	Leu	His	Trp
1970						1975					1980			
Ala	Ala	Ala	Val	Asn	Asn	Val	Glu	Ala	Thr	Leu	Leu	Leu	Leu	Lys
1985						1990					1995			
Asn	Gly	Ala	Asn	Arg	Asp	Met	Gln	Asp	Asn	Lys	Glu	Glu	Thr	Pro
2000						2005					2010			
Leu	Phe	Leu	Ala	Ala	Arg	Glu	Gly	Ser	Tyr	Glu	Ala	Ala	Lys	Ile
2015						2020					2025			
Leu	Leu	Asp	His	Phe	Ala	Asn	Arg	Asp	Ile	Thr	Asp	His	Met	Asp
2030						2035					2040			
Arg	Leu	Pro	Arg	Asp	Val	Ala	Arg	Asp	Arg	Met	His	His	Asp	Ile
2045						2050					2055			
Val	Arg	Leu	Leu	Asp	Glu	Tyr	Asn	Val	Thr	Pro	Ser	Pro	Pro	Gly
2060						2065					2070			
Thr	Val	Leu	Thr	Ser	Ala	Leu	Ser	Pro	Val	Ile	Cys	Gly	Pro	Asn
2075						2080					2085			
Arg	Ser	Phe	Leu	Ser	Leu	Lys	His	Thr	Pro	Met	Gly	Lys	Lys	Ser
2090						2095					2100			
Arg	Arg	Pro	Ser	Ala	Lys	Ser	Thr	Met	Pro	Thr	Ser	Leu	Pro	Asn
2105						2110					2115			
Leu	Ala	Lys	Glu	Ala	Lys	Asp	Ala	Lys	Gly	Ser	Arg	Arg	Lys	Lys
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Ser	Leu	Ser	Glu	Lys	Val	Gln	Leu	Ser	Glu	Ser	Ser	Val	Thr	Leu
2135						2140					2145			
Ser	Pro	Val	Asp	Ser	Leu	Glu	Ser	Pro	His	Thr	Tyr	Val	Ser	Asp
2150						2155					2160			
Thr	Thr	Ser	Ser	Pro	Met	Ile	Thr	Ser	Pro	Gly	Ile	Leu	Gln	Ala
2165						2170					2175			

Ser Pro Asn Pro Met Leu Ala Thr Ala Ala Pro Pro Ala Pro Val
 2180 2185 2190
 His Ala Gln His Ala Leu Ser Phe Ser Asn Leu His Glu Met Gln
 2195 2200 2205
 Pro Leu Ala His Gly Ala Ser Thr Val Leu Pro Ser Val Ser Gln
 2210 2215 2220
 Leu Leu Ser His His Ile Val Ser Pro Gly Ser Gly Ser Ala
 2225 2230 2235
 Gly Ser Leu Ser Arg Leu His Pro Val Pro Val Pro Ala Asp Trp
 2240 2245 2250
 Met Asn Arg Met Glu Val Asn Glu Thr Gln Tyr Asn Glu Met Phe
 2255 2260 2265
 Gly Met Val Leu Ala Pro Ala Glu Gly Thr His Pro Gly Ile Ala
 2270 2275 2280
 Pro Gln Ser Arg Pro Pro Glu Gly Lys His Ile Thr Thr Pro Arg
 2285 2290 2295
 Glu Pro Leu Pro Pro Ile Val Thr Phe Gln Leu Ile Pro Lys Gly
 2300 2305 2310
 Ser Ile Ala Gln Pro Ala Gly Ala Pro Gln Pro Gln Ser Thr Cys
 2315 2320 2325
 Pro Pro Ala Val Ala Gly Pro Leu Pro Thr Met Tyr Gln Ile Pro
 2330 2335 2340
 Glu Met Ala Arg Leu Pro Ser Val Ala Phe Pro Thr Ala Met Met
 2345 2350 2355
 Pro Gln Gln Asp Gly Gln Val Ala Gln Thr Ile Leu Pro Ala Tyr
 2360 2365 2370
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 2390 2395 2400
 His Ser Gly His Leu Gln Gly Glu His Pro Tyr Leu Thr Pro Ser
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 2420 2425 2430
 Ser Asp Trp Ser Asp Val Thr Thr Ser Pro Thr Pro Gly Gly Ala
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